A. CLASSIFICATION OF SUBJECT MATTER IPC 7 B23Q5/50 H01L H01L41/09 B23Q1/34 According to International Patent Classification (IPC) or to both national classification and IPC **B. FIELDS SEARCHED** Minimum documentation searched (classification system followed by classification symbols) IPC 7 B23Q H01L Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal C. DOCUMENTS CONSIDERED TO BE RELEVANT Category ° Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. X EP 0 747 977 A (MINOLTA CO LTD) 1,2,13, 11 December 1996 (1996-12-11) abstract; figure 4 US 5 633 763 A (SUZUKI SHINICHI ET AL) X 1,2 27 May 1997 (1997-05-27) abstract US 6 232 697 B1 (MIZUMOTO KENJI) Α 1,13,17 15 May 2001 (2001-05-15) cited in the application the whole document Further documents are listed in the continuation of box C. Patent family members are listed in annex. Special categories of cited documents: "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the "A" document defining the general state of the art which is not considered to be of particular relevance invention "E" earlier document but published on or after the international "X" document of particular relevance; the claimed Invention filing date cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the International filing date but later than the priority date claimed "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 21 November 2003 09/12/2003 Name and mailing address of the ISA Authorized officer European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016 Ljungberg, R



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PC	[/IB	03/	04	097

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
EP 0747977	A	11-12-1996	JP	8340682 A	24-12-1996
			JP	9205788 A	05-08-1997
			JP	9215353 A	15-08-1997
			JP	9215354 A	15-08-1997
			JР	9215355 A	15-08-1997
			JP	9247965 A	19-09-1997
			EP	0747977 A1	11-12-1996
			US	5786654 A	28-07-1998
US 5633763	Α	27-05-1997	JP	8021946 A	23-01-1996
US 6232697	B1	15-05-2001	JP	2000014176 A	14-01-2000